



Sri Lanka Institute of Information Technology

IT3021- Data Warehousing and Business Intelligence

**Assignment 2**

2022

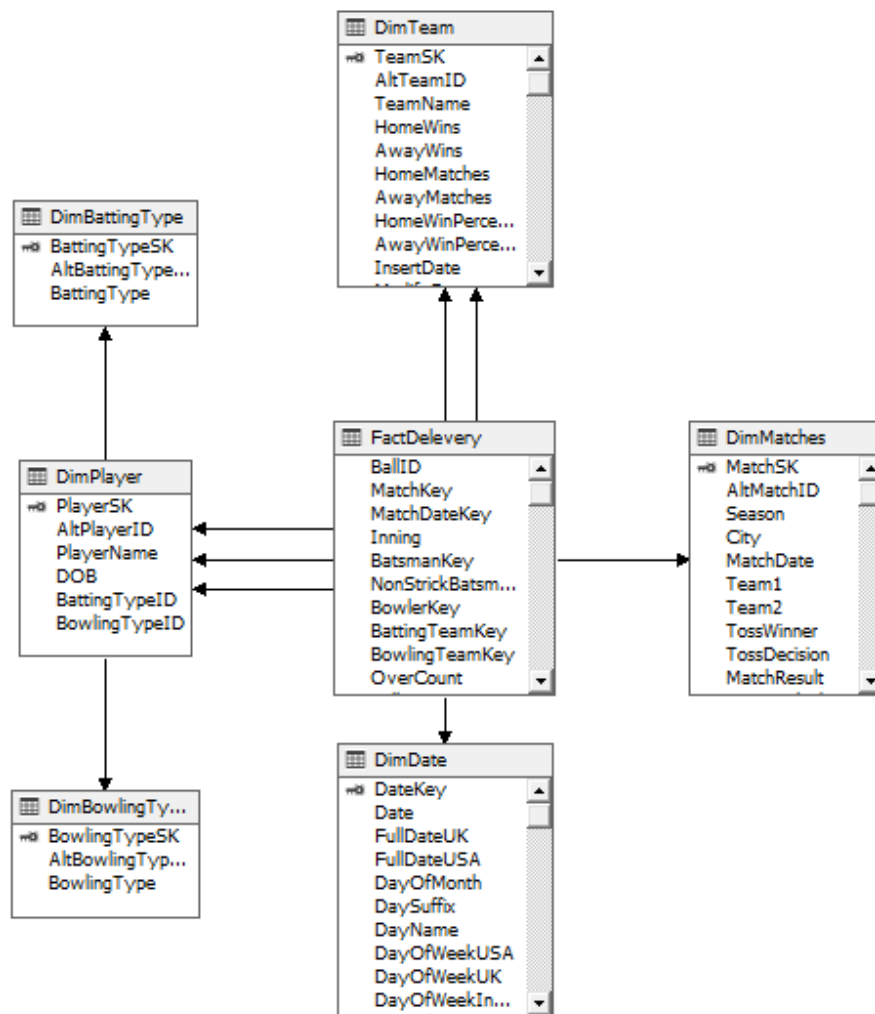
Submitted By:  
W.H.C. ALWIS  
IT20101510

## Data Source

For this purpose, use Data warehouse which implemented in last Assignment (Assignment1). This includes data on several IPL cricket match seasons.

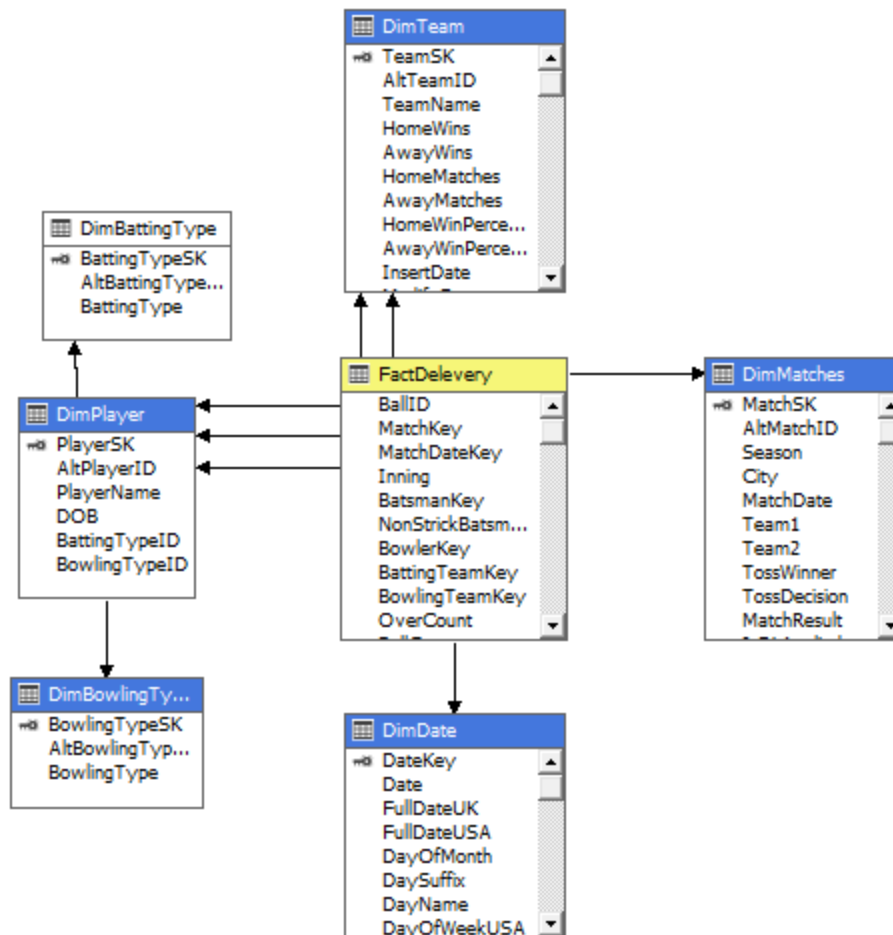
## SSAS Cube

In here first create data source view using implemented data dimensions and fact table.



Then create Data Cube,

## Data Source View

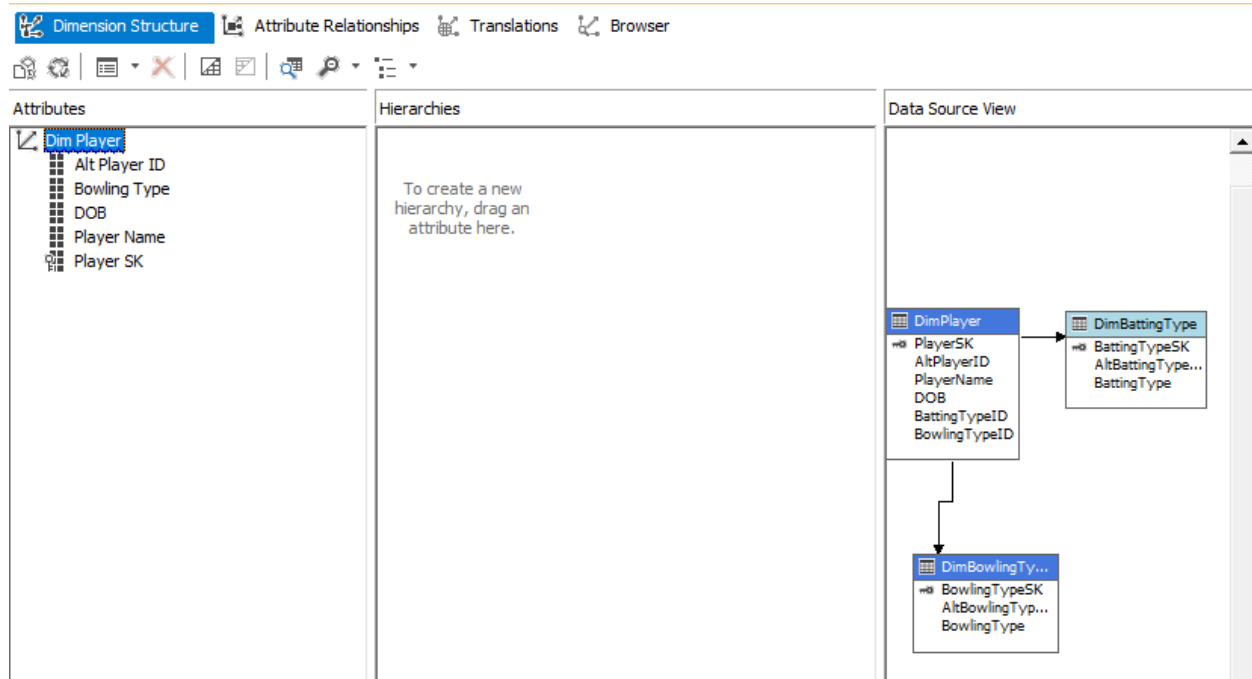


After that configure all the dimension with proper way

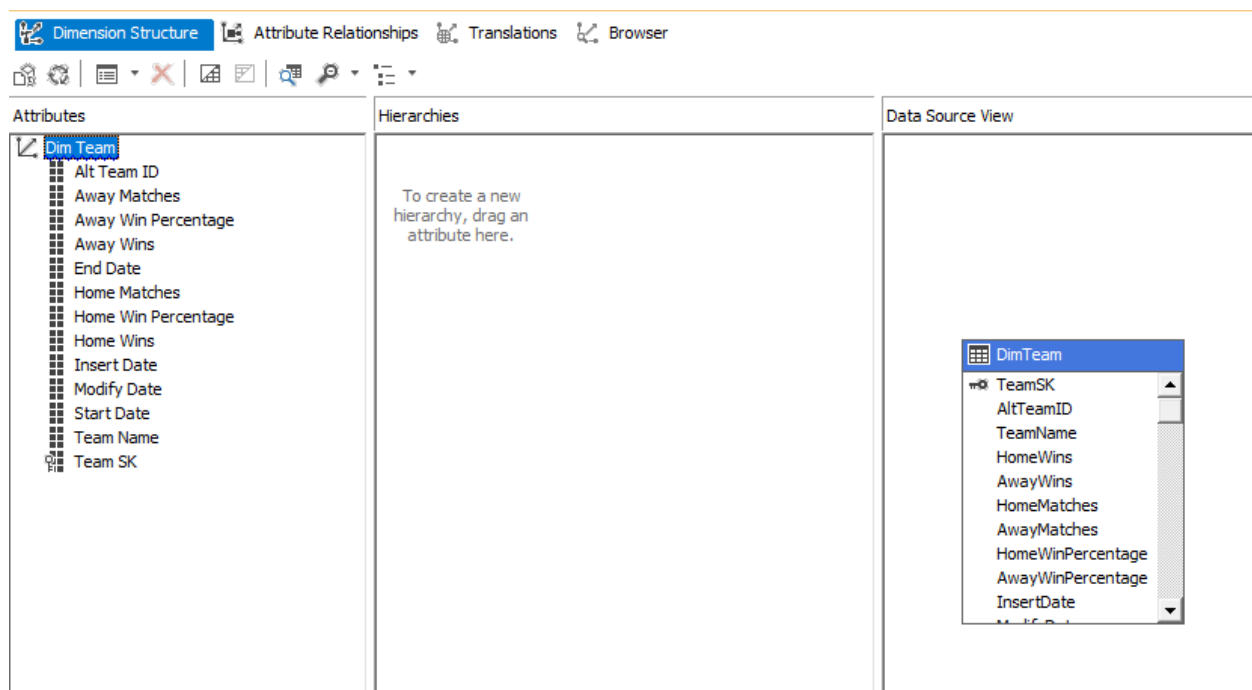
- DimDate

The screenshot shows the **Dimension Structure** tool interface. The **Attributes** pane on the left lists the attributes for **Dim Date**: Date Key, Month, Month Name, and Year. The **Hierarchies** pane in the center shows a hierarchy with **Year** as the root and **Month Name** as a child. The **Data Source View** pane on the right shows the **DimDate** dimension table with its attributes: DateKey, Date, FullDateUK, FullDateUSA, DayOfMonth, DaySuffix, DayName, DayOfWeekUSA, DayOfWeekUK, and DayOfWeekInMonth.

- DimPlayer



- DimTeam



- DimMatches

The screenshot displays the 'Dimension Structure' window of a data modeling tool. The interface is divided into three main panes: 'Attributes', 'Hierarchies', and 'Data Source View'. The 'Attributes' pane on the left lists the attributes for the 'Dim Matches' dimension, including Alt Match ID, City, Is DL Applied, Match Date, Match Result, Match SK, Player Of The Match, Season, Team1, Team2, Toss Decision, Toss Winner, Umpire1, Umpire2, Win By Runs, Win BY Wickets, and Winner. The 'Hierarchies' pane in the center is currently empty, showing a message: 'To create a new hierarchy, drag an attribute here.' The 'Data Source View' pane on the right shows a list of attributes for the 'DimMatches' dimension, including MatchSK, AltMatchID, Season, City, MatchDate, Team1, Team2, TossWinner, TossDecision, and MatchResult.

Dimension Structure | Attribute Relationships | Translations | Browser

Attributes

**Dim Matches**

- Alt Match ID
- City
- Is DL Applied
- Match Date
- Match Result
- Match SK
- Player Of The Match
- Season
- Team1
- Team2
- Toss Decision
- Toss Winner
- Umpire1
- Umpire2
- Win By Runs
- Win BY Wickets
- Winner

Hierarchies

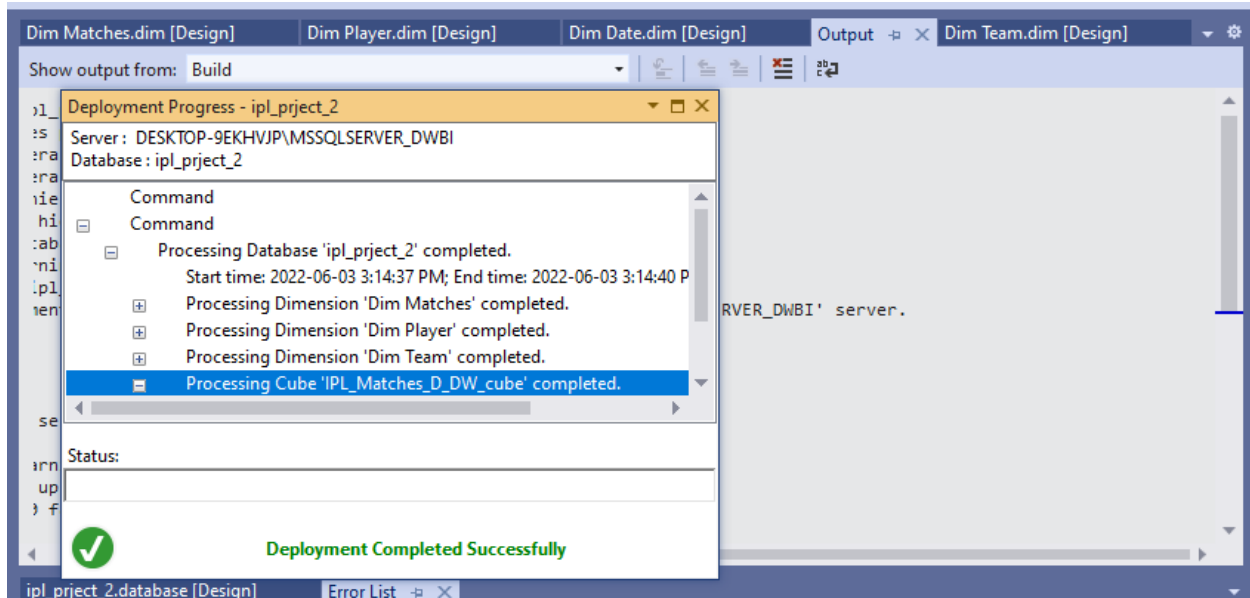
To create a new hierarchy, drag an attribute here.

Data Source View

**DimMatches**

- MatchSK
- AltMatchID
- Season
- City
- MatchDate
- Team1
- Team2
- TossWinner
- TossDecision
- MatchResult

Then Deploy the Cube.



## OLAP Operation

- **Roll Up**

To perform aggregation on a data cube by climbing up a hierarchy or by climbing down a hierarchy we use roll up.

According to the my scenario I have used season wise team total runs

Sum of Measures		Total Run	Column Labels									
Row Labels		Chennai Super Kings	Deccan Chargers	Delhi Capitals	Delhi Daredevils	Gujarat Lions	Kings XI Punjab	Kochi Tuskers Kerala	Kolkata Knight Riders	Mumbai Indians	Pune Warriors	Rajasthan Royals
IPL-2008		3037	2534		1970		2334		2395	1912		
IPL-2009		2976	2416		2098		1393		2028	2340		
IPL-2010		2471	2050		1901		2727		2643	3536		
IPL-2011		3606	2650		1864		1959	2007	2102	2367	1703	
IPL-2012		3641	3526		1216		2367		2221	1738	2048	
IPL-2013		2579			1840		2329		1981	3329	2091	
IPL-2014		2171			2029		3458		1574	2731		
IPL-2015		3337			2024		2042		1210	3469		
IPL-2016					1662	1811	2457		2308	2105		
IPL-2017					1760	2772	2650		1771	1791		
IPL-2018		2248			3212		2312		2173	3242		
IPL-2019		1863		1962			2575		3174	3289		
Grand Total		27929	13176	1962	21576	4583	28603	2007	25580	31849	5842	

- Drill-Down

Stepping down a dimension's hierarchy allows for navigating across details. Data is broken down into smaller chunks. It's the opposite of the roll-up approach.

Chennai Super Kings									
Row Labels	Deccan Chargers	Delhi Capitals	Delhi Daredevils	Kings XI Punjab	Kochi Tuskers Kerala	Kolkata Knight Riders	Mumbai Indians	Pune Warriors	Rajasthan Royals
IPL-2008									
January			341						
February	292								219
March				344			314		
April									
May									327
November			447						
December							410		
IPL-2009	612		308	567		377			290
IPL-2010	523		225			273	981		469
IPL-2011	311		334	381	559	479		259	329
IPL-2012	622		579	243		661	910	626	
IPL-2013			555	357		386	336	291	285
IPL-2014			Sum of MeasuresTotal Run			572			273
IPL-2015			Value: 555			600	317		615
IPL-2016			Row: IPL-2013						
IPL-2017			Column: Chennai Super Kings - Delhi Daredevils						
IPL-2018			424			376	356		726
IPL-2019	285			667			276		356

- Slicing

Sum of MeasuresBatsman Run		Column Labels	
Row Labels		Rajasthan Royals	Grand Total
IPL-2008		1714	1714
IPL-2009		1345	1345
IPL-2010		2178	2178
IPL-2011		1196	1196
IPL-2012		3078	3078
IPL-2013		2219	2219
IPL-2014		1956	1956
IPL-2015		1602	1602
IPL-2018		2401	2401
IPL-2019		1608	1608
Grand Total		19297	19297

Team Name

Chennai ...
Deccan ...

Delhi Ca...
Delhi Da...

Gujarat L...
Kings XI ...

Kochi Tu...
Kolkata ...

Mumbai ...
Pune W...

Rajastha...
Rising P...

Rising P...
Royal Ch...

Sunriser...

- Dice

Sum of MeasuresBatsman Run			Column Labels	
			Mumbai Indians	Grand Total
Row Labels			Kolkata Knight Riders	
IPL-2009		535	535	
IPL-2010		246	246	
IPL-2012		328	328	
IPL-2013		255	255	
IPL-2014		271	271	
IPL-2015		650	650	
IPL-2017		312	312	
IPL-2018		667	667	
Grand Total		3264	3264	

**Team 1 Name**

Chennai Super Kings

Deccan Chargers

Delhi Daredevils

Gujarat Lions

Kings XI Punjab

Kochi Tuskers Kerala

Mumbai Indians

Pune Warriors

**Team 2 Name**

Delhi Daredevils

Gujarat Lions

Kings XI Punjab

Kochi Tuskers Kerala

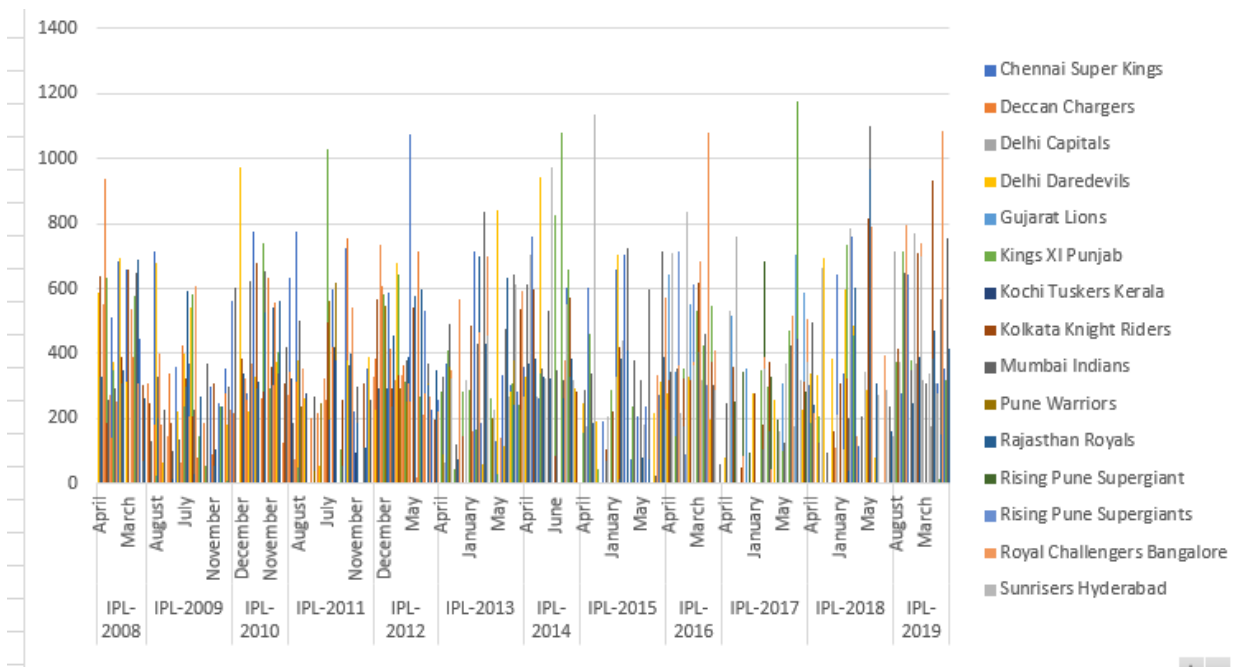
Kolkata Knight Riders

Pune Warriors

Rajasthan Royals

Rising Pune Superg...

## Pivot





## SSRS Reports

- **Report 01:**

### Report with Matrix

*Total Runs by a Team1 Against Team2 Through All The Seasons*

Teams Names	Chennai Super Kings	Deccan Chargers	Delhi Capitals	Delhi Daredevils	Gujarat Lions	Kings XI Punjab	Kochi Tuskers Kerala	Kolkata Knight Riders	Mumbai Indians	Pune Warriors	Raj
Chennai Super Kings			2360	285	3565		3704	559	3724	3900	1176
Deccan Chargers	644			2567			2384	203	475	1336	968
Delhi Capitals	628									404	
Delhi Daredevils	2008	1017				3035	557	3083	1893		369
Gujarat Lions				1456				367	676		
Kings XI Punjab	3334	934	683	3111	1339			5236	5002		464
Kochi Tuskers Kerala							359	553			299
Kolkata Knight Riders	2332	2200	765	3209	946	2875			4251		789
Mumbai Indians	4992	1543	310	4952	635	2964	366	3434			863
Pune Warriors	580	274		1341		1111		570	700		
Rajasthan Royals	2862	570	640	2356		3054	195	5011	1809		588
Rising Pune Supergiant					343	327		366	621		
Rising Pune Supergiants					718	305		491	320		

- **Report 02**

Report with more than one parameter

There are 2 parameters in this report.

-Season and Team

Season	IPL-2012	Team	Pune Warriors
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### Season Wise Total Runs by Teams

Season wise Runs	IPL-2012	Total
Pune Warriors	2048	2048
Total	2048	2048

- Report 3  
SSRS drill-down report

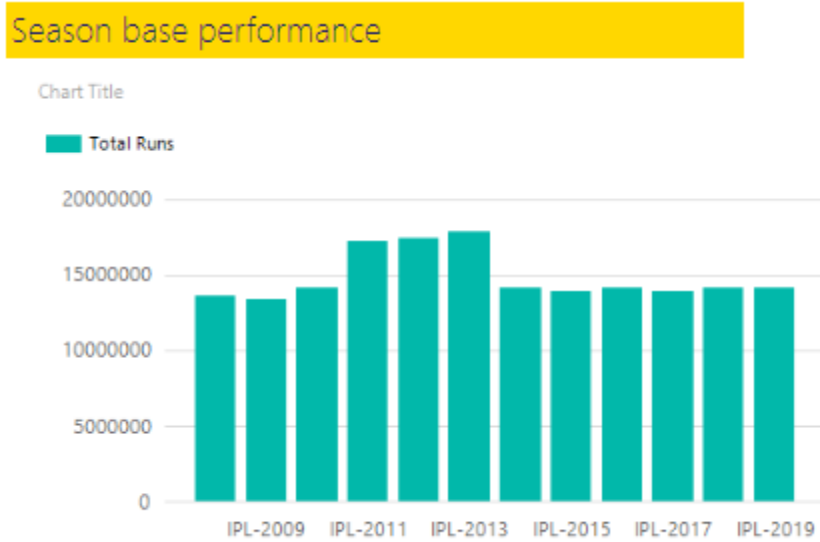
Ball by Ball mark of the mathc												
	Over #1								Over #2	Over #3		
Match	Ball #1	Ball #2	Ball #3	Ball #4	Ball #5	Ball #6	Ball #7	Ball #8	Ball #9	Total	Total	Total
Match #1	1	0	4	2	6	4	1			18	17	22
Match #2	2	4	2	6	4	0	1			19	23	21
Match #3	1	4	1	0	5	4				15	21	23
Match #4	1	0	4	1	1	0				7	15	12
Match #5	1	5	0	5	0	5	3			19	13	15
Match #6	0	1	2	1	1	1				6	18	33
Match #7	1	1	5	0	2	5	4	1		19	15	25
Match #8	1	1	5	0	1	0				8	13	23
Match #9	1	1	1	2	5	1	1			12	18	23
Match #10	0	1	0	0	5	2				8	18	15
Match #11	1	4	4	2	4	0	0			15	21	25
Match #12	1	1	3	1	0	2	2	0		10	4	18
Match #13	4	1	1	1	6	5	4	0		22	20	14
Match #14	1	2	2	1	1	1	0			8	11	14
Match #15	0	1	4	1	0	4				10	13	16
Match #16	1	0	0	1	1	4	2			9	20	17

Ball by Ball mark of the mathc												
	Over #1	Over #2	Over #3	Over #4	Over #5	Over #6	Over #7	Over #8	Over #9	Over #10	Over #11	Over #12
Match	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total	Total
Match #1	18	17	22	19	14	23	12	24	20	17	23	15
Match #2	19	23	21	17	11	29	6	13	19	17	14	11
Match #3	15	21	23	16	18	32	35	15	10	22	19	23
Match #4	7	15	12	24	22	11	10	9	9	17	20	7
Match #5	19	13	15	15	7	15	14	20	7	15	11	17
Match #6	6	18	33	15	11	16	14	13	7	16	20	15
Match #7	19	15	25	22	11	16	15	15	6	9	12	21
Match #8	8	13	23	18	10	13	13	14	20	18	16	18
Match #9	12	18	23	17	15	27	6	8	8	15	15	19
Match #10	8	18	15	15	12	27	18	12	13	22	14	16
Match #11	15	21	25	26	26	20	18	15	19	26	9	6
Match #12	10	4	18	6	14	10	19	5	13	15	11	16
Match #13	22	20	14	23	27	19	19	23	14	7	15	10
Match #14	8	11	14	19	20	13	9	7	19	14	23	17
Match #15	10	13	16	14	21	15	13	11	11	23	15	16
Match #16	9	20	17	10	22	24	10	16	24	13	6	11

- **Report 04**

SSRS drill-through report

This report include season base total runs



In this diagram shows season wise team total marks

